

## Abstract

The present invention relates to the method and equipment for inspecting nuclear experimental locales, and particularly relates to the method and system for separating and measuring  $^{37}\text{Ar}$  quickly. The method of the invention comprises the steps of sampling, eliminating impurities, separating, purifying, measuring the sum of Ar, collecting Ar, measuring the activity of  $^{37}\text{Ar}$ , etc. The control unit in the system of the invention connects respectively to a sampling unit, a separating-purifying unit, and a radioactivity measuring unit which are connected in turn, and a computer and the software of the control unit are in charge of the automatic operation, measurement and data-collection of the whole system. The method and system for quickly separating and measuring  $^{37}\text{Ar}$  of the patent can meet the requirements of locales inspection for Comprehensive Test Ban Treaty (CTBT), the sensitivity of measuring  $^{37}\text{Ar}$  is high, so do the production and purity of Ar. The system can also be operated on vehicle, which is flexible and has good work efficiency.